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Case Report

An incident of lichen planus correlated to a certain brand of amlodipine: a case report

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ABSTRACT

As the etiology of oral lichen planus (OLP) remains unclear most literature suggests that genetic, hepatitis c, systemic diseases, hypersensitivity to dental material and drug reactions can be contributing factors of OLP. However, as malignant transformation is a possible sequence of OLP, more efforts towards studying the etiology and OLP-inducing health conditions, materials, and drugs should be taken. We report a case of OLP induced by commonly prescribed antihypertensive, amlodipine specifically the commercial drug Amlocard to further discuss its association with OLP and how the active ingredient (amlodipine) might not be the actual cause of such reaction. In our case, a 60-year-old Saudi non-smoker housewife presented at the Dental University Hospital of King Saud University in Riyadh with multiple oral lesions on her tongue and bilaterally on the buccal mucosa for two-month duration. She also complained of pain and burning sensation over the areas of oral lesions while eating, especially when eating hot or spicy food. Otherwise, there were no associated numbness or loss of taste. The patient reported the following non-oral symptoms: itching of pubic area, skin-lesion on her back and chest, vaginal and anal lesions. Manifestation of OLP started 3.5 months after replacing her antihypertensive medication 5 mg Amlor (amlodipine) once per day to 5 mg Amlocard (amlodipine) twice per day. Diagnosis was confirmed after histopathological report of the incisional biopsy of the oral lesions to be indeed OLP. Satisfactory results were obtained after changing the medication back to Amlor with the same original dose and prescribing prednisolone oral solution 15 ml/5 mg for two weeks, Clobetasol propionate ointment 25 mg and nystatin suspension 100000 units to elevate oral symptoms. Amlodipine-associated lichen planus is an inflammatory reaction with different systematical manifestation, early recognition of signs and symptoms and frequent follow up is standard of treatment to recognize any unwanted malignant progression of the lesion.

Keywords: Oral lichen planus, Amlodipine, Drug-induced reactions, Hypertension

INTRODUCTION

A chronic inflammatory, autoimmune, mucocutaneous disorder, lichen planus (LP) can also affect the skin, scalp, nails, vaginal mucosa, and oral mucosa.[1] With a female-to-male ratio of roughly 2:1 and a reported incidence of 0.5% to 2%, it primarily affects middle-aged and older females.[2] Clinically, oral LP (OLP) can appear as white striations (also known as Wickham's striae), papules, plaques, erythema, erosions, or blisters. These lesions are frequently bilateral and symmetrical. Gingiva, tongue dorsum, and buccal mucosa are commonly impacted.[3] There are four varieties of OLP: reticular, atrophic, erosive, and bullous. The most prevalent types are reticular and erosive.[4]

Studies indicates OLP as a T-cell dysfunction-driven localized autoimmune disease. White striae, erosions, and ulcers are the clinical manifestations of this illness, which is caused by the breakdown of the epithelium's basal layer.[5]

Given that there has been a documented malignant transformation rate ranging from 0.4% to 10%, this condition is likewise considered to be an oral possibly malignant ailment.[6] Dentists should continue to evaluate patients with lichenoid lesions on a regular basis and exercise caution notwithstanding the ongoing dispute regarding its malignant potential.[7]

T-cells and macrophages play a major role in the pathophysiology of OLP, with T-cells accelerating the inflammatory response and promoting keratinocyte death.[8] While the exact cause of lichen planus is still unknown, there are a number of possible triggers that could occur, including a genetic predisposition, systemic disorders, hepatitis C infection, hypersensitivity reactions to dental materials, and adverse pharmacological reactions, especially to antihypertensive medications.[9] Among these, whereas reports of drug-induced lichen planus are rather rare, calcium channel blockers such as amlodipine have been linked to it.[1]

In this case study, we share the 3.5-month-old mucocutaneus lichen planus emergence of a 61-year-old female patient with diabetes mellitus and hypertension when switched to a different commercial brand of amlodipine (Amolocard).

CASE REPORT

A 60-year-old Saudi non-smoker housewife presented with multiple intraoral white lesions on the dorsum of her tongue and bilateral buccal mucosa, persisting for a duration of two months. The patient reported experiencing pain and a burning sensation in the regions of the lesions when consuming hot or spicy foods. No associated numbness or loss of taste was observed. She reported that she has skin lesions on her chest and back and that she is itching in the genital area. The patient provided with a history of lesions in the vaginal and anal regions. She is currently managing her type 2 diabetes mellitus with glucophage 1000 mg twice daily, and her condition is under effective control. In addition, she is hypertensive and requires 5 mg of Amlor (amlodipine) daily. Two months before the onset of symptoms, the patient began treatment with Amlocard (amlodipine) 5 mg twice daily for hypertension. She was not using any additional medications or conventional treatments. The patient had no reported drug allergies. There was no family history of cutaneous disease or malignancy. Inspection revealed white lesions on the dorsal surface of the tongue (Figure 1), bilateral striation in the buccal mucosa, and desquamative gingiva in the anterior maxilla (Figure 2). Intraoral palpation revealed no induration or growth. No enlarged lymph nodes or salivary glands were observed. Extraoral skin lesions characterized by widespread pigmented macules on the back, brownish in hue, persistent for several months, and asymptomatic (Figure 3). Subsequent inquiry indicated that the skin lesions developed several days following the emergence of oral symptoms. Nevertheless, the skin lesions exhibited pruritus in the pubic region. The patient presented with a history of lesions in the vaginal and anal regions. All other clinical examinations yielded normal results. Therefore, OLP is likely induced by Amlocard (amlodipine). Amlocard was discontinued by her cardiologist, and the patient was initiated on Amlor 5 mg once daily. She received prescriptions for topical clobetasol propionate 25 mg, nystatin suspension 100,000 units, and Prednislone 15 ml/5 mg for two weeks. A follow-up is advised in two weeks.

When the patient returned for a follow-up appointment a few weeks later, her condition had improved by half. The patient was advised to gradually reduce the dosage of Prednisolone oral suspension. Additionally, to observe results in a month, use Dermovate once daily rather than twice a day. Following a duration of seven months and the modification of the medication to Amlor, no signs or symptoms were observed. A whitish plaque that can be removed from the dorsal surface of the tongue was observed, and a swab was performed to investigate the possibility of a secondary candidiasis infection (Figure 4). The rash and etching have resolved; however, bilateral white lacy striations persist on the buccal mucosa and right gingiva, accompanied by white plaque. Additionally, intraoral Wickham striae are present on the buccal gingiva of tooth #46. After the discontinuation of Amlocard (amlodipine), the skin lesions resolved within seven months, with no recurrence observed. Her blood pressure was effectively managed with Amlor 5 mg once daily. Informed consent was obtained from the patient in writing.

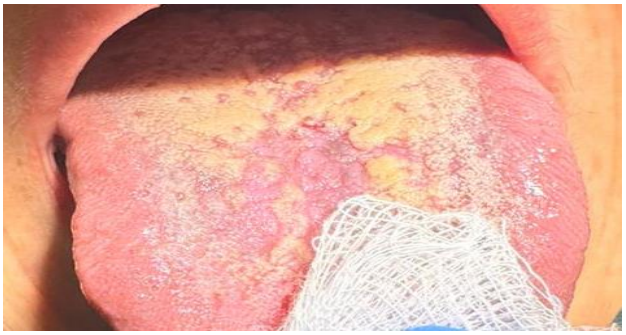

Figure 1: Intraoral photograph at initial examination showing white lesion on the dorsal of the tongue.

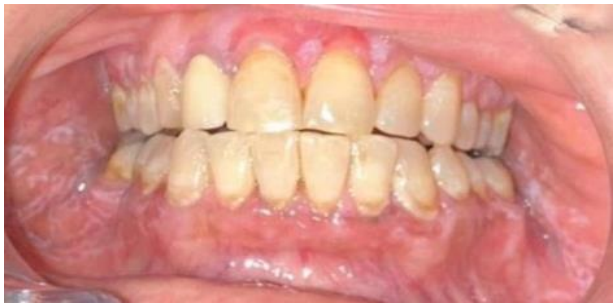

Figure 2: Intra-oral photograph of the patient showing desquamative gingiva in the anterior maxilla, and bilateral striation on the buccal mucosa.

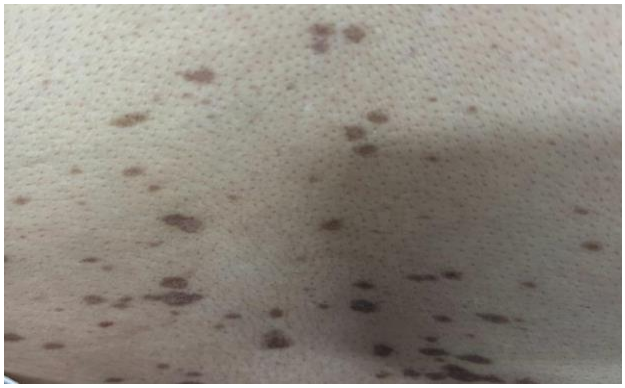

Figure 3: Extra-oral photograph of pigmented macules lesions widespread on the back.

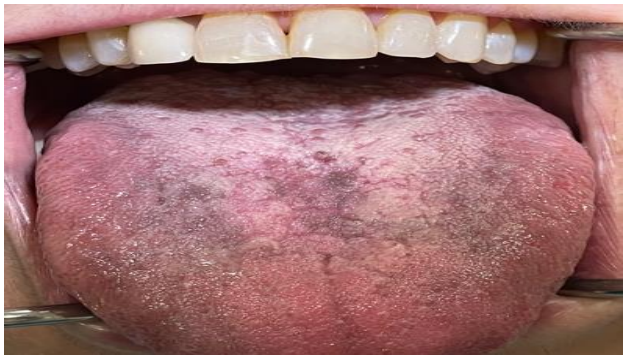

Figure 4: Intraoral photograph after the follow-up, showing whitish plaque on the dorsal surface of the tongue.

DISCUSSION

OLP and OLR exhibit comparable clinical and histological characteristics. The etiology of the lesion serves as the distinguishing factor; OLP is classified as an idiopathic inflammatory disease. OLP is frequently linked to supplementary cutaneous manifestations of lichen planus, including flat-topped polygonal violaceous papules and plaques located on the wrists, ankles, and genitalia, while oral lichen lesions (OLRs) are confined to the oral mucosa. OLRs result from responses to external or internal chemical exposures. OLRs generally develop unilaterally and are situated along the lateral borders of the tongue or buccal mucosa. Oral lichen planus (OLP) and oral lichen ruber (OLRs) manifest clinically as reticular white patches and plaques on the oral mucosa, potentially leading to mucosal erosion.[9]

Persistent oral ulcers indicate chronic ulcerative stomatitis. This condition is more prevalent in women and typically onset occurs during the fifth and sixth decades of life. Chronic ulcerative stomatitis primarily impacts the gingiva, buccal mucosa, and tongue. Chronic ulcerative stomatitis can lead to gingival involvement resembling desquamative gingivitis. OLP and chronic ulcerative stomatitis exhibit several histopathologic similarities. Chronic ulcerative stomatitis presents challenges in treatment due to its refractory nature, overlapping symptoms, and potential for long-term suffering if not addressed.[10]

A biopsy was conducted to confirm the histopathological features of OLP and to validate our preliminary differential diagnosis. Histological findings in lichen planus consist of acanthosis, parakeratosis, hypergranulosis, hydropic degeneration of the basal layer, and band-like lymphocytic infiltration at the dermal-epidermal junction.[11] In 1978, the World Health Organization's (WHO) collaborating centre for oral precancerous lesions established the initial histopathological diagnostic criteria for OLP.

Several microscopic features were observed that may be present in OLP lesions, including orthokeratosis or parakeratosis, a sawtooth appearance of rete ridges, Civatte bodies, a zone predominantly composed of lymphocytic infiltrate in the superficial lamina propria, a narrow band of eosinophilic material in the basement membrane, and liquefactive degeneration of the basal cell layer.[12]

The drug provocation test (DPT), also known as a drug challenge test, is a medical procedure employed to diagnose or exclude a specific drug by gradually re-administering it into the body.[13] This test is deemed unnecessary in this instance, as the patient's drug reaction resolved quickly following the cessation of the primary cause, thus excluding other contributing factors.

Based on the biopsy results, the definitive diagnosis is OLP, which may manifest in multiple clinical forms. Patients may experience painful oral mucosa, sensitivity to hot or spicy foods, and oral ulcerations. Additionally, Wickham striae, characterized by polygonal, lichenoid papules with fine white lines, are notable features of lichen planus. Lesions most commonly develop in the dorsal region of the trunk and the limbs. Leukoplakia of the mucosal membranes frequently co-occurs with nail disorders.[14] In addition to genital lesions, most of these were reported by the patient.

Amlodipine-associated lichen planus was effectively managed by substituting the causative medication with an alternative formulation of amlodipine, specifically Amlor 5 mg. The primary objective in managing OLP was to alleviate symptoms through the application of topical immunomodulators, such as corticosteroids. 15 prednisolone 15 ml/5 mg, nystatin 10,000 units, and clobetasol25 mg ointment were prescribed for administration twice daily. Two months later, the patient returned for a follow-up, and the drug reaction had resolved. Prednisolone was discontinued and Clobetasol ointment continued once daily for 2 weeks then once every other day until symptoms resolved. Five months later, the itching and rash resolved, leaving bilateral white lacy striations in the buccal mucosa. OLP may resolve spontaneously; however, it has a significant potential for recurrence.[16]

Amlodipine-associated lichen planus represents an inflammatory response characterized by various systemic manifestations, including involvement of the oral cavity, skin, and genital mucosa. Histological findings are crucial for confirming the diagnosis of OLP. An association was identified between amlodipine intake and OLP in this case. Recommendations and need for further investigations into the medicine ingredients triggering the reaction.

CONCLUSION

In conclusion, this case highlights the association between the specific amlodipine brand (Amlocard) and OLP. The findings emphasize the importance of early recognition and management of drug-induced lichen planus to avoid adverse effects. Further research should investigate the role of different drug formulations and inactive ingredients in triggering OLP. Studies with larger patient groups could help to better understand how certain amlodipine brands cause these reactions.

Recommendations

In conclusion, this case highlights the association between the specific amlodipine brand (Amlocard) and OLP. The findings emphasize the importance of early recognition and management of drug-induced lichen planus to avoid adverse effects. Further research should investigate the role of different drug formulations and inactive ingredients in triggering OLP. Studies with larger patient groups could help to better understand how certain amlodipine brands cause these reactions.

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REFERENCES

1. Mungroo MR, Khan NA, Siddiqui R. Balamuthia mandrillaris: pathogenesis, diagnosis, and treatment. Expert Opin Orphan Drugs. 2020;8(4):111-9.
2. Gheorghe C, Mihai L, Parlatescu I, Tovaru S. Association of oral lichen planus with chronic C hepatitis. Rev Data Lit. Maedica (Bucur). 2014;9(1):98.
3. Villanueva-Sánchez FG, Escalante-Macías LH, Zambrano-Galván G, Cuevas-González JC, Maya-García IA. Oral lichen planus: case report and literature review. Rev Alerg Mex. 2018;65(4):424-30.
4. Greenberg M, Glick M. Burket's Oral Medicine: Diagnosis and Treatment. 10th ed. Hamilton (ON): BC Decker. 2003;141-2.
5. Chiang CP, Chang JY, Wang YP, Wu YH, Lu SY, Sun A. Oral lichen planus–differential diagnoses, serum autoantibodies, hematinic deficiencies, and management. J Formos Med Assoc. 2018;117(9):756-65.
6. Tampa M, Caruntu C, Mitran M, Mitran C, Sarbu I, Rusu LC, et al. Markers of oral lichen planus malignant transformation. Dis Markers. 2018;2018:1-10.
7. Contreras A, Mahmood M, Montilla H, Enciso R, Han PP, Suarez-Durall P. Oral potentially malignant disorders in older adults: a review. Dent Rev. 2023;100071.
8. Soames JV, Southam JC. Oral Pathology. Oxford (UK): OUP Oxford. 2005.
9. Rotim Z, Bolanca Z, Rogulj AA, Andabak M, Boras VV, Vrdoljak DV. Oral lichen planus and oral lichenoid reaction–an update. Acta Clin Croat. 2015;54(4):516-20.
10. Islam NM, Alramadhan SA. Lichenoid lesions of the oral mucosa. Oral Maxillofac Surg Clin North Am. 2023;35(2):189-202.
11. Fernández González F, Vázquez Álvarez R, Reboiras López D, Gándara Vila P, García García A, Gándara Rey JM. Histopathological findings in oral lichen planus and their correlation with clinical manifestations. Acta Odontol Scand. 2011;69(6):316-22.
12. Raj G, Raj M. Oral lichen planus. In: StatPearls. Treasure Island (FL): StatPearls Publishing. 2022.
13. Soyer O, Sahiner UM, Sekerel BE. Pro and contra: provocation tests in drug hypersensitivity. Int J Mol Sci. 2017;18(7):1437.
14. Carrozzo M, Porter S, Mercadante V, Fedele S. Oral lichen planus: a disease or a spectrum of tissue reactions? Types, causes, diagnostic algorithms, prognosis, management strategies. Periodontol 2000. 2019;80(1):105-25.
15. Usatine RP, Tinitigan M. Diagnosis and treatment of lichen planus. Am Fam Physician. 2011;84(1):53-60.
16. Sandhu S, Klein BA, Al-Hadlaq M, Chirravur P, Bajonaid A, Xu Y, et al. Oral lichen planus: comparative efficacy and treatment costs—a systematic review. BMC Oral Health. 2022;22(1):1-21.

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